TESTIMONY OF
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COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
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I. Introduction

Madam Chairwoman and members of the Subcommittee, I am Craig Hooks, Director of the Office of Wetlands, Oceans, and Watersheds in the Office of Water at the United States Environmental Protection Agency (EPA). Thank you for the opportunity to discuss EPA's water quality programs for agriculture. Agriculture is our Nation's primary non-point source of water quality impairments, and I welcome the opportunity to discuss this important issue with the Subcommittee.

II. Significance of Agriculture as a Source of Water Pollution

EPA's 2002 National Assessment Database summarizes State water quality reports ("Section 305(b) reports") and categorizes the quality of the state's assessed waters as good, threatened, or impaired. States identified 45% of the assessed miles of rivers and streams as impaired, and agriculture was the most frequently identified source, contributing significantly to 37% of all impaired miles of assessed rivers and streams. States similarly identified 47% assessed of lakes, ponds, and reservoirs as impaired, and agriculture was again the most frequently identified source, contributing significantly to 30% of all impaired acres of assessed lakes, ponds, and reservoirs.

Finally, in the case of estuaries and bays, States identified 32% of assessed bays and estuaries as impaired with the leading sources identified as industrial discharges, municipal discharges, resources extraction, urban runoff/stormwater, and atmospheric deposition; and in

many estuaries, agriculture is also a dominant source of impairments. For example, in the Gulf of Mexico, which in recent years has experienced significant hypoxia (insufficient oxygen) throughout a large area, about 74 percent of the nitrate load is estimated to be contributed by agriculture. This is believed by the experts to be the primary cause of Gulf hypoxia. Agriculture is similarly understood to be a major factor causing water quality impairments in the Chesapeake Bay, the Neuse River, and many other significant bays and estuaries. About 19% of rivers and stream miles, 37% of lakes and ponds, and 35% of bays and estuaries have been assessed. Impairment in non-assessed waters may be lower, since States often focus assessments on waters with known or suspected problems.

III. EPA's National Nonpoint Source Program

The National Nonpoint Source Program, established by Congress in 1987 under Section 319 of the Clean Water Act ("CWA"), is EPA's primary program to manage nonpoint source ("NPS") pollution. This program manages a very broad range of nonpoint sources, including urban runoff, forestry, hydromodification, and habitat modification. However, the most significant category of NPS pollution is agriculture, and as such it deservedly receives more attention than any other NPS category.

Agriculture can affect water quality adversely in a myriad of ways, and both the problems and solutions to these problems are well summarized in EPA's guidance document, "National Management Measures for the Control of Nonpoint Pollution from Agriculture." This document segments agriculture-based water quality issues into six categories: nutrient management, pesticide management, erosion and sediment control, confined animal feeding operations, grazing management, and irrigation water management. For each category, the document explains the pollution problems that may result from improper practices; describes broad "management measures" that represent the best available, economically achievable measures to reduce pollution; and gives more detailed information on the most effective practices that are

available to implement the management measure, together with a summary of available information on the effectiveness and cost of these practices. Leading examples of practices that can help improve water quality include:

- Using conservation tillage, no-till, or other practices to help keep the soil on the land and out of the water;
- Developing and implementing both nutrient management plans and integrated pest management plans to assure that nutrients and pesticides are used at the right time and place and in the amount needed to achieve production goals without causing runoff of nutrients and pesticides that could harm water quality;
- Managing manure to prevent runoff during rainfall events;
- Developing and implementing grazing management systems (e.g., herding) to reduce physical disturbance of streams and stream banks, and;
- Efficiently transporting and applying irrigation water to minimize water loss to evaporation, deep percolation, and runoff.

The Section 319 program is administered by EPA but is implemented by the States. This means that States develop plans that assess water quality problems holistically throughout a watershed (most typically an area ranging between 10 and 100 square miles, depending on a variety of factors); analyze and quantify the sources and causes of water quality problems and impairments; estimate the pollutant reductions that will be needed to solve water quality problems; and identify the best management practices that will be needed in various places to achieve the needed pollutant reductions. Typically, there are multiple means to solve a water quality problem, and EPA encourages States to choose one that is the most cost effective and feasible.

Section 319 does not provide any regulatory authority to EPA or the States. State 319 programs are implemented primarily on a voluntary basis. To promote broad and active participation by local producers in the protection and restoration of their local waterbodies, EPA requires that every Section 319-funded watershed project include an outreach component along with the technical aspects of the project. EPA and the States have long recognized that projects only succeed when stakeholders understand their local water quality issues and are actively involved in fashioning and implementing solutions to these problems.

The watershed-based approach to defining and implementing water quality solutions has resulted in a growing list of "Section 319 Success Stories", which are documented at www.epa.gov/nps/success. There, one can read numerous examples of collaborative, watershed-based efforts that have resulted in great progress in restoring water quality. Here a few examples of successful 319-funded projects:

1. Aquilla Reservoir, Texas: Aquilla Reservoir is an important source of drinking water and recreation but was found to contain excessive levels of the herbicide atrazine beginning in 1997. Project partners initiated efforts to reduce agricultural atrazine sources—and to a lesser extent, urban sources—in the watershed. As a result of technical assistance to corn and sorghum producers, the use of agricultural best management practices (BMPs), and education for urban residents, atrazine concentrations in Aquilla Reservoir declined by 60 percent. The reservoir now contains levels of atrazine that are below the maximum contaminant levels for drinking water.
2. Lower Yakima River, Washington: Erosion from irrigated agricultural lands has caused the waters of the lower Yakima River to become impaired by suspended sediment, turbidity, and the cancelled pesticide DDT. As a result of better irrigation practices through the conversion from furrow to sprinkler or drip systems, area farmers

have met interim targets for reducing turbidity at three of the four primary irrigation water return drains, and made significant progress meeting targets at all other sites.

3. Bass Lake, Wisconsin: Livestock operations and other agricultural activities contributed to nutrient pollution and fish kills in Bass Lake in northeastern Wisconsin. The Marinette County Land and Water Conservation Department (LWCD) led an effort to reduce polluted runoff by installing state-of-the-art barnyard control practices in combination with in-lake treatment techniques. The Bass Lake restoration project reduced the average phosphorus concentration by 98%. The lake will be removed from the state's next list of impaired waters, in 2008.

An additional source of funding that EPA brings to the table is its State Revolving Loan Fund under Title VI of the CWA. This fund is used by many States to provide loans to agricultural producers for a host of BMP's, such as the replacement of inefficient irrigation systems with water saving devices that help protect water quality; the installation of animal waste BMP's; and the provision of conservation tillage equipment that can be shared by various producers within a watershed.

IV. EPA-USDA Cooperation Helps Producers Solve Water Quality Problems

A key feature of many of the success stories I mentioned above is that they involve collaboration among a broad set of key water quality and agricultural agencies. This is the hallmark of successful agriculture-based watershed projects that are funded by EPA. Typical partners include State water quality, agriculture, and soil and water conservation agencies; local conservation districts other local units of government, local watershed associations and farm organizations; and EPA and the U.S. Department of Agriculture (USDA).

EPA and USDA and our partners bring different strengths to solving water quality problems at the local level. Many USDA conservation programs are authorized through the Farm Bill, and USDA, through the conservation district system, has built a long history of trust among

agricultural producers. EPA and State water quality agencies can provide funding for some activities that may not be funded by USDA programs to help make a watershed project a success. Over the past several years, in agricultural regions, EPA has focused the 319 program on such areas to ensure funds are targeted to critical activities not funded through other means. For example, EPA funds can be used to 1) conduct water quality monitoring to improve understanding of the water quality issues and potential solutions; 2) develop watershed plans that enable a community to identify priority needs and priority locations for implementation; 3) hire a dedicated watershed coordinator (often a conservation specialist who is rooted in a local community) who can educate the community and help design and implement the solutions; and 4) demonstrate innovative management practices, such as dairy manure composting in Erath County, Texas.

EPA water quality programs and USDA conservation programs are most effective when we are able to work together in a concerted and coordinated manner to focus our resources in the same watersheds. For example, the Nebraska office of USDA's Natural Resources Conservation Service (NRCS) has worked cooperatively with Nebraska's Department of Environmental Quality to develop and fund in 2007 a new "Water Quality Initiative Program" that will invest Environmental Quality Incentives Program (EQIP) funds in one-on-one technical assistance to farmers and landowners at priority sites within watersheds that have completed Section 319 watershed plans. EQIP is a voluntary conservation program from the USDA, which provides financial and technical assistance to farmers for structural and management conservation practices. A number of other States have developed similar programs or projects where agricultural programs are being coordinated with Section 319 funding to achieve water quality improvement in local watersheds.

The Administration's proposal for the forthcoming reauthorization of the Farm Bill will help promote effective collaboration between water quality and agricultural agencies to solve

local water quality problems. In addition to providing additional funds for conservation programs, the proposal would increase the focus of EQIP on cooperative approaches to enhancing water quality on a regional scale. In addition, it would modify the Conservation Security Program to emphasize incentives for implementing higher levels of conservation practices. These and other features would help producers restore impaired waters more rapidly.

V. Water Quality Trading to Promote Cost-Effective Agricultural Solutions

One of EPA's tools for supporting agricultural conservation practices is water quality trading. Water quality trading programs allow facilities facing high pollutant control costs to meet their regulatory obligations by purchasing environmentally equivalent (or superior) pollutant reductions from another source at lower cost. Trading programs transform pollutant reductions achieved by implementing agricultural conservation practices into a valuable commodity that a producer can sell to an industrial or municipal facility. The benefits can be numerous: more income for farmers; less cost and more flexibility for wastewater dischargers to meet their permit limits; and additional benefits to the environment, such as improved habitat and pollutant reduction.

Perhaps the best way to understand water quality trading is by example. In Barron County, Wisconsin, the city of Cumberland pays agriculture producers about $18.50 per acre for converting to no-till farming. The city saves money because paying producers for this conservation practice is a cheaper way to reduce phosphorus pollution than is upgrading the city wastewater treatment plant and paying higher operating costs. Not only does this trade save the city money, but in addition to reducing pollutant loading, it also provides environmental benefits, such as increased wildlife habitat. Upgrading the city's treatment plant would not have necessarily provided the city with this added benefit.

EPA provides a number of tools to help agricultural producers participate in trading programs, many of which are implemented in collaboration with USDA.

- On August 13, 2006, EPA signed a Partnership Agreement with USDA's NRCS to promote collaboration on water quality trading efforts.
- EPA funded the Conservation Technology Information Center's efforts to publish an important guide to help agricultural advisors understand the benefits to producers of participating in water quality trading and how water quality trading works. The guide is entitled, *Getting Paid for Stewardship: An Agriculture Community Water Quality Trading Guide.*
- EPA is working with NRCS to support a water quality trading pilot involving agricultural producers in the Chesapeake Bay.
- In summer of 2007, EPA will publish a request for grant proposals to support water quality trading and other market-based tools in the Mississippi River Basin. We anticipate that $3 million will be available through Targeted Watershed Grants.
- In 2008, EPA will train agricultural advisors and other stakeholders in areas of the Mississippi River Basin that have conditions that may be ripe for water quality trading.

VI. Water Quality Criteria and Standards to Address Nitrogen and Phosphorus Pollution

Water quality criteria and standards are used to establish specific objectives and expectations for our waterways. They operate to measure and guide federal, state, and local efforts to maintain and promote water quality under the CWA and provide an essential link between science, state and community goals, and environmental results. Nutrient pollution ranks as one of the top causes of water quality problems in our Nation's waters, affecting both human health and aquatic life. Numeric nutrient water quality criteria and standards address nutrient (nitrogen and phosphorus) pollution.

EPA is providing leadership and working in partnership with States, Territories and authorized Tribes to establish quantitative endpoints for addressing nitrogen and phosphorus pollution. Numeric nutrient criteria and standards drive water quality assessments and watershed protection management. They create state and community-developed environmental baselines that allow us to manage more effectively, measure progress, and support broader partnerships. Numeric nutrient criteria and standards support faster and easier development of nutrient Total Maximum Daily Loads, assist in writing protective DPDES permits, provide quantitative targets for water quality trading, and supply a baseline to evaluate Best Management Practices (BMPs) for agriculture. The Agency has developed a strategy to target technical assistance where it will be most effective and helpful in the numeric nutrients standards adoption process. More specifically, EPA will:

- Provide direct assistance to states close to adopting numeric criteria by providing implementation and policy support;
- Build capacity of states that are further from adopting numeric criteria by providing technical assistance; and
- Develop a science-based foundation for future criteria and standards development in estuaries, wetlands, and large rivers.

VII Pesticides

EPA's Office of Water and the Office of Pesticide Programs are collaborating closely to enhance consideration of water quality impacts of pesticides in the implementation of both the water quality and the pesticide registration programs. We are coordinating on the development of pesticide water quality criteria, and identifying opportunities for pesticide monitoring through the pesticide registration process. We are working to ensure that water quality data from States, USGS, and other sources is considered in the pesticide registration review process. We have

also helped to provide training for State pesticide and water managers to foster coordination at the State level.

Conclusion

We have made a major investment in the implementation of programs and practices to protect and restore waters that are impacted or may be impacted by agriculture. However, much more work remains to be done to achieve the program's long-term goals. We will continue to work with this Committee, our Federal colleagues, and the many partners, stakeholders, and citizens who want to accelerate the pace and efficiency of water quality protection and restoration. This concludes my prepared remarks; I would be happy to respond to any questions you may have.